No. 96-645

Supreme Court, U.S.
FILED
NOV 22 1996
CLERK

IN THE
Supreme Court of the United States
OCTOBER TERM, 1996

SUBARU OF AMERICA, INC., and
FUJI HEAVY INDUSTRIES, INC.,
Petitioners,

v.

STEVEN D. COMPTON,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Tenth Circuit

BRIEF FOR THE CHEMICAL MANUFACTURERS ASSOCIATION AND THE CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

Of Counsel:
DAVID F. ZOLL
DONALD D. EVANS
CHEMICAL MANUFACTURERS ASSOCIATION
1300 Wilson Boulevard
Arlington, Virginia 22209
(703) 741-5000

ROBIN S. CONRAD
NATIONAL CHAMBER LITIGATION CENTER, INC.
1615 H Street, N.W.
Washington, D.C. 20062
(202) 463-5337

November 22, 1996

BERT BLACK *
DANIEL R. CHEMERS
WEINBERG & GREEN LLC
100 South Charles Street
Baltimore, Maryland 21201
(410) 332-8600

CLIFTON T. HUTCHINSON
HUGHES & LUCE, L.L.P.
1717 Main Street
Suite 2800
Dallas, Texas 75201
(214) 939-5500
Counsel for Amici Curiae

* Counsel of Record

WILSON - EPES PRINTING CO., INC. - 789-0096 - WASHINGTON, D.C. 20001

84 pp

QUESTIONS PRESENTED

1. Whether the explanation of Rule 702 of the Federal Rules of Evidence set forth in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), applies to the testimony of an engineering expert.

2. If *Daubert* applies to an engineering expert's testimony, whether such testimony is admissible if the expert purports to base his or her conclusion solely on experience and training, and not on scientific or engineering methodology and reasoning.

TABLE OF CONTENTS

	Page
QUESTIONS PRESENTED	i
TABLE OF AUTHORITIES	v
INTEREST OF *AMICI CURIAE*	1
STATEMENT OF THE CASE	3
SUMMARY OF ARGUMENT	4
ARGUMENT	6
I. THE TENTH CIRCUIT HAS CREATED A SPLIT IN THE CIRCUITS BY HOLDING *DAUBERT*'S GUIDANCE INAPPLICABLE TO THE ENGINEERING TESTIMONY IN THIS CASE	6
A. Because Engineering Is Rooted in Scientific Knowledge, *Daubert*'s Criteria for Evaluating Scientific Validity Generally Govern the Admissibility of Expert Engineering Testimony	6
B. Even if Viewed as "Technical" Rather Than "Scientific" Knowledge, Engineering Is Covered by *Daubert*'s Guiding Principle that Expert Testimony Must Validly Derive from the Expert's Field	7
C. The Tenth Circuit's Ruling That an Engineer Can Escape Judicial Gatekeeping Is at Odds with *Daubert* and Conflicts with Holdings from Other Circuits	9
II. THE TENTH CIRCUIT'S "EXPERIENCE AND TRAINING" TEST FOR DETERMINING THE ADMISSIBILITY OF EXPERT TESTIMONY IS CONTRARY TO *DAUBERT*, AND IS PARTICULARLY INAPPROPRIATE FOR ENGINEERING TESTIMONY	11

TABLE OF CONTENTS—Continued

Page

A. The "Experience and Training" Test Would Eviscerate *Daubert*, and It Conflicts with Decisions from Other Circuits 11

B. Requiring an Explanation of Reasoning and Methodology Is Particularly Important for a Field Like Engineering 14

C. Engineering Standards Are Based on Careful Testing and Considered Review of Data, Not on a Single Engineer's Experience and Training 15

III. THE ISSUES IN THIS CASE ARE IMPORTANT 16

CONCLUSION 17

TABLE OF AUTHORITIES

Cases:	Page
Asplundh Manufacturing Division v. Benton Harbor Engineering, 57 F.3d 1190 (3d Cir. 1995)	10
Berry v. City of Detroit, 25 F.3d 1342 (6th Cir. 1994), *cert. denied*, 115 S.Ct. 902 (1995)	9, 12
Brown v. Miska, 1995 WL 723156 (S.D. Tex. July 19, 1995) (unpublished)	6
Brown v. Miska, 96 F.3d 1445 (5th Cir. Aug. 29, 1996) (Table No. 95-40758)	7
Compton v. Subaru of America, Inc., 82 F.3d 1513 (10th Cir. 1996)	4
Cummins v. Lyle Industries, 93 F.3d 362 (7th Cir. 1996)	10, 14
Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993)	*passim*
Deimer v. Cincinnati Sub-Zero Products, Inc., 58 F.3d 341 (7th Cir. 1995)	14
Frymire-Brinati v. KPMG Peat Marwick, 2 F.3d 183 (7th Cir. 1993)	9
Habecker v. Clark Equipment Co., 36 F.3d 278 (3d Cir. 1994), *cert. denied*, 115 S.Ct. 1313 (1995)	10
Iacobelli Construction, Inc. v. County of Monroe, 32 F.3d 19 (2d Cir. 1994)	10
Liriano v. Hobart Corp., 1996 WL 304337 (S.D.N.Y. July 23, 1996)	16
Marcel v. Placid Oil Co., 11 F.3d 563 (5th Cir. 1994)	10
Peitzmeier v. Hennessy Industries, Inc., 97 F.3d 293 (8th Cir. 1996)	10, 14
Pestel v. Vermeer Manufacturing Co., 64 F.3d 382 (8th Cir. 1995)	10
Pries v. Honda Motor Co., Ltd., 31 F.3d 543 (7th Cir. 1994)	10
Rosen v. Ciba-Geigy Corp., 78 F.3d 316 (7th Cir.), *cert. denied*, 117 S.Ct. 73 (1996)	13
Rutigliano v. Valley Business Forms, 929 F.Supp. 779 (D. N.J. 1996)	13
Sepulveda v. Department of Health and Human Services, 1995 WL 502887 (Fed. Cl. Aug. 10, 1995)	13

TABLE OF AUTHORITIES—Continued

	Page
Thomas v. Newton International Enterprises, 42 F.3d 1266 (9th Cir. 1994)	14
United States v. Locascio, 6 F.3d 924 (2d Cir. 1993), *cert. denied*, 114 S.Ct. 1646 (1994)	14
Ventura v. Titan Sports, Inc., 65 F.3d 725 (8th Cir. 1995), *cert. denied*, 116 S.Ct. 1268 (1996)	10
Waitek v. Dalkon Shield Claimants Trusts, 934 F. Supp. 1068 (N.D. Iowa 1996)	16
Rules:	
Federal Rules of Evidence, Rule 701	10
Rule 702	*passim*
Miscellaneous:	
Lisa M. Agrimonti, Note, *The Limitations of* Daubert *and Its Misapplication to Quasi-Scientific Experts, A Two-Year Case Review of* Daubert v. Merrell Dow Pharmaceuticals, Inc., 35 Washburn L.J. 134 (1995)	8
American College of Trial Lawyers, *Standards and Procedures for Determining the Admissibility of Expert Evidence After* Daubert, 157 F.R.D. 571 (1994)	8
George C. Beakley & Ernest G. Chilton, DESIGN: SERVING THE NEEDS OF MAN (1974)	15
Margaret A. Berger, *Evidentiary Framework, in* REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 37 (Federal Judicial Center 1994)	8
Bert Black, Francisco J. Ayala & Carol Saffran-Brinks, *Science and the Law in the Wake of* Daubert: *A New Search for Scientific Knowledge*, 72 Tex. L. Rev. 715 (1994)	16
David L. Faigman, *Mapping the Labyrinth of Scientific Evidence*, 46 Hastings L. J. 555 (1995)	8
G. Michael Fenner, *The* Daubert *Handbook: The Case, Its Essential Dilemma, and Its Progeny*, 29 Creighton L. Rev. 939 (1996)	8

TABLE OF AUTHORITIES—Continued

Page

Edward J. Imwinkelried, *The Next Step After* Daubert: *Developing a Similarly Epistemological Approach to Ensuring the Reliability of Non-scientific Expert Testimony*, 15 Cardozo L. Rev. 2771 (1994) 8

Marc S. Klein, *The Revolution in Practice and Procedure: "*Daubert *Hearings"*, 1 Shepard's Expert & Sci. Evidence Q. 655 (1994) 16

Arvin Maskin, *The Impact of* Daubert *on the Admissibility of Scientific Evidence: The Supreme Court Catches Up with a Decade of Jurisprudence*, 15 Cardozo L. Rev. 1929 (1994) 16

Linda Sandstrom Simard & William G. Young, Daubert*'s Gatekeeper: The Role of the District Judge in Admitting Expert Testimony*, 68 Tul. L. Rev. 1457 (1994) 9

ANNUAL BOOK OF ASTM STANDARDS, Vol. 00.01 (1992) 15

WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY (1986) 6

6 THE WORLD BOOK ENCYCLOPEDIA (1996) 6

IN THE

Supreme Court of the United States

OCTOBER TERM, 1996

No. 96-645

SUBARU OF AMERICA, INC., and
FUJI HEAVY INDUSTRIES, INC.,
Petitioners,

v.

STEVEN D. COMPTON,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Tenth Circuit

---

BRIEF FOR THE CHEMICAL MANUFACTURERS ASSOCIATION AND THE CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

Amici curiae respectfully pray that this Court grant review in this case. *Amici* have obtained consent from all parties to file this brief. Correspondence evidencing consent has been provided to the Clerk of this Court.

INTEREST OF *AMICI CURIAE*

The Chemical Manufacturers Association ("CMA") is a non-profit trade organization whose member companies produce, market, and use industrial chemicals. Its members comprise more than 90 percent of the productive

capacity for basic industrial chemicals in the United States. The chemical industry employs over a million workers in this country, and produces about 1.8 percent of the U.S. gross domestic product. On a value-added basis, it is about 10.3 percent of U.S. manufacturing.

The Chamber of Commerce of the United States of America (the "Chamber") is the largest federation of business, trade and professional organizations in the United States. The Chamber represents more than 215,000 companies, as well as several thousand trade and professional organizations, and state and local chambers of commerce. Over 90 percent of the member companies employ 100 or fewer people. For these small businesses, having to defend even false and unsupported claims can threaten their very existence.

Amici are concerned about the Tenth Circuit's decision in this seemingly ordinary automobile accident case because it announces a new standard for admitting expert testimony that undermines this Court's ruling in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Under *Daubert*, federal trial judges must act as gatekeepers to determine "whether the reasoning or methodology underlying [an expert's] testimony is scientifically valid and . . . whether that reasoning or methodology properly can be applied to the facts in issue." *Id.* at 592-93.

Daubert has greatly improved the use of expert evidence in federal courts by focusing attention on whether experts can provide reasoned explanations of how they reach their conclusions. The Tenth Circuit, however, would allow experts to escape judicial gatekeeping simply by saying that they relied on their training and experience and did not engage in any definable reasoning process. For *amici* and their constituent members, who face putative expert testimony from many fields and in many different kinds of cases, this interpretation of *Daubert* raises grave concerns.

When experts are allowed to give opinions in court that are not based on the methods and principles of their field of expertise, defendants sometimes pay for injuries or damages they did not cause. The American consumer also pays; prices go up and some products are never developed or never brought to market. *Daubert* has reduced these problems significantly, and this case should not be allowed to vitiate its salutary effect.

STATEMENT OF THE CASE

At one level this case is about an automobile accident and an engineering expert witness who fashioned a unique design standard for passenger car roofs without explaining his methodology or his reasoning. Its importance, however, goes far beyond automobiles and engineering. The Tenth Circuit's holding that the admissibility of this expert testimony was not governed by *Daubert* raises serious questions about when and how courts should control the use of expert evidence.

The accident in this case involved a single vehicle that skidded out of control, left the road, and rolled over. The Plaintiff (here Respondent) was one of four passengers. The driver and the other three passengers suffered only minor injuries, but the Plaintiff was seriously hurt. He alleged a design defect had caused the roof of the car to collapse onto his head.

In support of this allegation the Plaintiff proffered the testimony of the engineering expert, who opined that the roof should have been designed to sustain average forces between 48,000 and 71,000 pounds. The District Court noted its *"extremely low* opinion of [the expert's] credibility and of the validity of his opinions," App. to Petitioners' Petition at 18a (emphasis in original), but nonetheless refused to exercise its *Daubert* gatekeeping authority. The expert's testimony was admitted over the Defendants' objections, and the case proceeded to a Plaintiff's verdict.

The Tenth Circuit affirmed, holding *Daubert*'s requirement that scientific testimony must be based on valid scientific reasoning or methodology did not apply because the expert had not articulated *any* reasoning or methodology. His testimony was not subject to gatekeeping because "application of the *Daubert* factors is unwarranted in cases where expert testimony is based solely upon experience or training." *Compton v. Subaru of America, Inc.*, 82 F.3d 1513, 1518 (10th Cir. 1996).

SUMMARY OF ARGUMENT

The Tenth Circuit's reading of *Daubert* in this case raises two fundamental questions. First, does *Daubert's* guidance on Fed. R. Evid. 702 cover a field like engineering? Second, if an expert develops an opinion that necessarily involved the interpretation of data and the reasoned application of scientific principles, can *Daubert* be avoided if the expert simply disavows any reasoning and claims his or her opinion was based only on training and experience? The answer to the first question must be yes; the answer to the second must be no.

Daubert established that the admissibility of *scientific* evidence depends on the *scientific* validity of an expert's reasoning or methodology, but this Court's focus on science simply reflected the facts of that case. Just because *Daubert* addressed only science does not mean that other kinds of expert testimony should be subjected to less scrutiny. As a matter of logic, if scientists must confine their expert testimony to valid science, all experts should be limited to opinions that are appropriate within the context of their field of expertise.

As a field closely akin to science, engineering falls squarely within the criteria for assessing scientific validity that are outlined in *Daubert*.[1] Even if viewed as technical

---

[1] Characterized as "general observations" in *Daubert*, these criteria are: (1) testability and testing, (2) peer review and publication, (3) error rate and the maintenance of standards, and (4) general acceptance within the relevant scientific community. 509 U.S. at 593-94.

knowledge, however, expert engineering opinions should derive from valid engineering methodology and reasoning to be admissible. *Daubert's* basic principle—that expert testimony must be valid within the context of the expert's field—must still govern the analysis. Most courts have taken this approach to engineering evidence and even to evidence from fields quite different from science. The Tenth Circuit's ruling in this case therefore creates a serious split in the circuits.

The Tenth Circuit's ill-conceived "experience and training" test for admissibility also raises issues beyond the applicability of *Daubert* to engineering expert testimony. It would allow an expert from any field governed by *Daubert* to avoid judicial gatekeeping when the expert cannot or will not explain the reasoning or methodology underlying his or her opinions. Other courts which have considered the issue have recognized that when experts do not explain how they reach their conclusions the validity of their reasoning or methodology cannot be assessed by either the court or the jury, and their testimony should be excluded. The Tenth Circuit has taken a very different approach. Though it apparently would exclude the expert who ventures a bad explanation, it would admit testimony based on no explanation at all.

The "experience and training" test is particularly inappropriate for engineering testimony, the validity of which depends on the reasoned application of scientific principles. The expert's speculative and untested alternative design standard in this case does not satisfy the criteria for valid science outlined in *Daubert,* and is contrary to good engineering practice. The trial court's decision to admit this testimony, and the Tenth Circuit's decision to affirm were erroneous.

ARGUMENT

I. THE TENTH CIRCUIT HAS CREATED A SPLIT IN THE CIRCUITS BY HOLDING *DAUBERT*'S GUIDANCE INAPPLICABLE TO THE ENGINEERING TESTIMONY IN THIS CASE.

Whether engineering testimony is regarded as scientific or technical knowledge, *Daubert* applies to the determination of its admissibility. As a field based on scientific knowledge, engineering should be evaluated under the kind of criteria this Court outlined in *Daubert*. No matter how engineering is classified for Rule 702 purposes, however, the Tenth Circuit's ruling that an engineer can escape judicial gatekeeping is at odds with *Daubert*, and it conflicts with holdings from other circuits.

A. Because Engineering Is Rooted in Scientific Knowledge, *Daubert*'s Criteria for Evaluating Scientific Validity Generally Govern the Admissibility of Expert Engineering Testimony.

Engineering is "the profession that puts scientific knowledge to practical use," 6 THE WORLD BOOK ENCYCLOPEDIA 284 (1996). While scientists concentrate more on making discoveries, engineers work more at solving practical problems, but they use scientific knowledge extensively. Their field has been defined as "the science by which the properties of matter and the sources of energy in nature are made useful to man in structures, machines, and products." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 752 (1986). Thus, the criteria outlined in *Daubert* for assessing the validity of a scientific expert's reasoning and methodology also apply to the assessment of engineering testimony.

Brown v. Miska, 1995 WL 723156 (S.D. Tex. July 19, 1995), an unpublished decision from the Southern District of Texas, is particularly instructive with regard to the expert testimony in this case. *Brown* involved an automobile accident and a claim that the plaintiff's in-

juries occurred because a seat back had failed. Though he never tested or even saw the seat, the plaintiff's expert opined it was defective. The District Court excluded this testimony and granted summary judgment. It found that "engineering generally entails the practical application of scientific methods and measurements," *id.* at *4, and that the lack of explanation and testing was an important consideration.

> Without any account of [the expert's] intermediate reasoning or methodology, the validity of that reasoning cannot be tested . . . [and without testing] it [was] incapable of meeting the 'validity' criterion of *Daubert*.

Id. The Fifth Circuit affirmed. *Brown v. Miska*, 96 F.3d 1445 (5th Cir. Aug. 29, 1996) (Table No. 95-40758).

B. Even if Viewed as "Technical" Rather Than "Scientific" Knowledge, Engineering Is Covered by *Daubert*'s Guiding Principle That Expert Testimony Must Validly Derive From the Expert's Field.

Daubert's central message is that an expert's testimony must reflect the special knowledge found in his or her field of expertise. Although this Court's decision in *Daubert* addressed only science, 509 U.S. 590 n.8, the holding that the admissibility of scientific evidence depends on the scientific validity of an expert's reasoning or methodology, 509 U.S. 592-593, must, as a matter of simple logic, extend to other kinds of expert testimony. Economists, for example, should be allowed to testify only about opinions validly based on the principles of economics.

Whatever kind of expertise is at issue, a court should evaluate the validity of the methodology and reasoning underlying an expert's testimony to assure that it in fact constitutes knowledge from the expert's field. The specific criteria set forth in *Daubert* for determining the validity of scientific evidence may not apply without modification

to other fields,[2] but whatever criteria experts in a field use to evaluate each other's work should apply in a courtroom just as they do elsewhere.[3] As Professor Faigman has written, limiting *Daubert* to science "displays a crabbed interpretation of the . . . opinion as well as a misconstruction of the principles underlying Rule 702." David L. Faigman, *Mapping the Labyrinth of Scientific Evidence*, 46 Hastings L. J. 555, 559 (1995). *See also* American College of Trial Lawyers, *Standards and Procedures for Determining the Admissibility of Expert Evidence After* Daubert, 157 F.R.D. 571, 577 (1994) ("there [should] be a single conceptual framework for evaluating the admissibility of all types of expert evidence"); Edward J. Imwinkelried, *The Next Step After* Daubert: *Developing a Similarly Epistemological Approach to Ensuring the Reliability of Nonscientific Expert Testimony*, 15 Cardozo L. Rev. 2271, 2281 (1994) ("If the mention of scientific knowledge [in Rule 702] suffices to mandate reliability standards for scientific testimony, a fortiori the mention of nonscientific expert knowledge should compel the courts to seek to formulate reliability standards for that type of expert evidence as well."); G. Michael Fenner, *The* Dau-

---

[2] Opponents of extending *Daubert* to areas of expertise other than science generally overlook or ignore the broad principle on which the decision is founded and assume that all the specific factors outlined by the court would have to be used to analyze the validity of nonscientific knowledge, which obviously is wrong. *See, e.g.*, Lisa M. Agrimonti, Note, *The Limitations of* Daubert *and Its Misapplication to Quasi-Scientific Experts, A Two-Year Case Review of* Daubert v. Merrell Dow Pharmaceuticals, Inc., 35 Washburn L. J. 134 (1995).

[3] Of course, in some cases the issue may be the validity of the field itself. Astrology, even if done in accordance with principles recognized within the field, would not be admissible. *See* Margaret A. Berger, *Evidentiary Framework in* REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 37, 73-75 (Federal Judicial Center 1994). In this case, however, the issue is the validity of conclusions ostensibly reached through the methods and reasoning of engineering, a field that itself is not in dispute.

bert *Handbook: The Case, Its Essential Dilemma, and Its Progeny*, 29 Creighton L. Rev. 939, 948 (1996) ("[t]he general point . . .—that when expert testimony is proffered and resisted, the trial court should hold a hearing to determine whether the evidence is reliable and relevant—applies to all expert evidence").

Indeed, the specific *Daubert* criteria for assessing scientific validity may play a role in the evaluation of other kinds of expert evidence as well. The listing of three different kinds of expert knowledge in Rule 702 does not mean that each requires a completely separate mode of analysis. Though perhaps less important for some kinds of evidence than for others, scientific criteria can help in determining the validity and reliability of other forms of expert testimony. *See* Linda Sandstrom Simard & William G. Young, Daubert*'s Gatekeeper: The Role of the District Judge in Admitting Expert Testimony*, 68 Tul. L. Rev. 1457, 1470-74 (1994). Even an art appraiser's estimates can be tested by collecting data and comparing those estimates with actual selling prices, and for a field like engineering testing should be a basic requirement.

C. The Tenth Circuit's Ruling That an Engineer Can Escape Judicial Gatekeeping Is at Odds With *Daubert* and Conflicts With Holdings From Other Circuits.

Courts other than the Tenth Circuit have held that *Daubert* is applicable to engineering and to a wide range of fields quite different from science. As the Sixth Circuit has made clear, *Daubert*'s "language relative to the 'gatekeeper' function of federal judges is applicable to all expert testimony offered under Rule 702." *Berry v. City of Detroit*, 25 F.3d 1342, 1350 (6th Cir. 1994), *cert. denied*, 115 S. Ct. 902 (1995). The Seventh Circuit has similarly recognized the need to conduct a preliminary assessment of all expert evidence. In *Frymire-Brinati v. KPMG Peat Marwick*, 2 F.3d 183 (7th Cir. 1993), the Seventh Circuit cited *Daubert* for this proposition in the

course of excluding an expert accountant's testimony. *See also Cummins v. Lyle Industries,* 93 F.3d 362 (7th Cir. 1996) (affirming exclusion of expert testimony regarding alternative design for a trim press); *Pries v. Honda Motor Co., Ltd.,* 31 F.3d 543 (7th Cir. 1994) (finding testimony about alleged malfunction of seatbelt buckle inadmissible).

The Third Circuit has applied *Daubert* to exclude the testimony of a facility safety director who had attempted to simulate an accident, *Habecker v. Clark Equipment Co.,* 36 F.3d 278 (3d Cir. 1994), *cert. denied,* 115 S.Ct. 1313 (1995), and has even followed its guidance in addressing non-expert opinion evidence under Fed. R. Evid. 701. *Asplundh Manufacturing Division v. Benton Harbor Engineering,* 57 F.3d 1190, 1201-2 (3d Cir. 1995). The Fifth Circuit, in *Marcel v. Placid Oil Co.,* 11 F.3d 563 (5th Cir. 1994), affirmed a trial court's exclusion of an economist's testimony, and cited *Daubert* for the proposition that judges must assure that an expert's testimony rests on a reliable foundation and is relevant to the task at hand. The Eighth Circuit has followed *Daubert* in excluding expert engineering testimony regarding an alternative design for a safety guard on a stump cutter, *Pestel v. Vermeer Manufacturing Co.,* 64 F.3d 382 (8th Cir. 1995), and in admitting the testimony of an economist regarding damages. *Ventura v. Titan Sports, Inc.,* 65 F.3d 725 (8th Cir. 1995), *cert. denied,* 116 S.Ct. 1268 (1996). *See also Peitzmeier v. Hennessy Industries, Inc.,* 97 F.3d 293 (8th Cir. 1996) (explicitly rejecting the argument that *Daubert* does not apply to the review of engineering testimony).

The Tenth Circuit's decision in this case is clearly contrary to this substantial body of post-*Daubert* caselaw. The split in the circuits involves more than just the Tenth Circuit, however. The Second Circuit also has split from the majority by missing the broad general principle at the heart of *Daubert. See, e.g., Iacobelli Con-*

struction, Inc. v. County of Monroe, 32 F.3d 19 (2d Cir. 1994) (foundation engineering not within scope of *Daubert*).

II. THE TENTH CIRCUIT'S "EXPERIENCE AND TRAINING" TEST FOR DETERMINING THE ADMISSIBILITY OF EXPERT TESTIMONY IS CONTRARY TO *DAUBERT*, AND IS PARTICULARLY INAPPROPRIATE FOR ENGINEERING TESTIMONY.

Beyond the applicability of *Daubert* to engineering expert testimony, the Tenth Circuit's ill-conceived "experience and training" test for admissibility raises issues affecting expert testimony from a wide variety of fields. It would allow an expert from any field governed by *Daubert* to avoid judicial gatekeeping when the expert does not explain the reasoning or methodology underlying his or her opinions. This approach conflicts with other circuits that have recognized the need for experts to provide reasoned explanations for their conclusions. For a field like engineering, in which conclusions are based on the rational application of scienitfic principles, focusing only on experience and training is particularly inappropriate. Engineering design standards result from careful testing and considered review of data, not the unexplained hunches of a single individual.

A. The "Experience and Training" Test Would Eviscerate *Daubert*, and It Conflicts With Decisions From Other Circuits.

An expert's testimony can consist of facts from his or her field of expertise, or conclusions based on those facts and other evidence in a case.[4] In other words, experts

---

[4] As this Court noted in *Daubert*, "[the word 'knowledge'] 'applies to any body of known facts or to any body of ideas inferred from such facts or accepted as truths on good grounds.' Webster's Third New International Dictionary 1252 (1986)." 509 U.S. at 590.

sometimes provide nothing more than information which they know because of their experience, training, or education; and sometimes they explain and interpret facts, or draw inferences from them. To borrow an example from the Sixth Circuit, one could prove that bumblebees always take off into the wind by introducing the testimony of a beekeeper who had observed bees for many years, but to explain how bumblebees fly, and why they take off into the wind, would require a different kind of expert, such as an aeronautical engineer. *Berry v. City of Detroit*, 25 F.3d 1342, 1349-50 (6th Cir. 1994).

Both the beekeeper and the engineer would be providing expert knowledge, and both should be subject to scrutiny under the fundamental *Daubert* principle that all expert testimony must constitute valid knowledge from the expert's field. So long as it is limited to factual observations, testimony like the beekeeper's may be quite reliable and admissible, even if it is based solely on experience. Without supporting data and valid reasoning, however, neither a beekeeper nor an engineer should be allowed to opine on why or how a bumblebee flies. *Daubert* requires a court to determine both whether a reasoned explanation is necessary, and if so, whether the explanation provided is in fact valid.[6]

---

[6] In Respondent's Brief in Opposition to Petitioner's Petition there is extensive discussion of the expert's education and experience, and much is made of the fact that he inspected the accident vehicle and a similar vehicle that was undamaged, and that he "made notes, took measurements, photographs, and made drawings and diagrams of the welding pattern of the roof and roof support structures of the Accident Vehicle." Brief in Opposition at 4. He then "compared his measurements with the headroom in hundreds of other vehicles he had examined and compiled a list of headroom measurements from a variety of sources." *Id.* What is completely missing from this discussion is any explanation of how these various measurements are related to the accident vehicle. For example, to what forces were the other cars subjected, and how did those forces compare with the forces to which the accident vehicle was subjected? Thus the expert's testimony was not relevant or admissible

The Tenth Circuit has eliminated these requirements by allowing an expert to escape scrutiny just by saying he or she used no methodology or reasoning. Its ruling in this case would allow a witchdoctor to testify about what caused a patient's disease based solely on a lifetime of observing sick people; and it would let an otherwise qualified physician base testimony on witchdoctory and then hide behind the assertion he or she used no definable methodology or reasoning. If allowed to stand, the "experience and training" approach would eviscerate this Court's landmark ruling in *Daubert* that expert testimony must constitute valid expertise. This gross misinterpretation of Rule 702 would permit experts to avoid gatekeeping when it is most warranted.

No other circuit has adopted the Tenth Circuit's approach, and several courts have emphasized that unexplained and untested conclusions are inadmissible. *See, e.g., Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir.), *cert. denied*, 117 S.Ct. 73 (1996) (affirming exclusion of medical testimony regarding the cause of a heart attack because the expert had offered "neither a theoretical reason . . . or any experimental, statistical or other scientific data from which . . . a causal relation might be inferred or which might be used to test a hypothesis founded on theory"); *Rutigliano v. Valley Business Forms*, 929 F. Supp. 779, 786 (D. N.J. 1996) (excluding medical testimony regarding causation where expert had relied primarily on "expertise and experience"); *Sepulveda v. Department of Health and Human Services*, 1995 WL 502887 at *1n.8 (Fed. Cl. Aug. 10, 1995) (noting that "reputable medical or scientific explanation does not

---

even as a report on what he had obeserved. Moreover, there is absolutely no rationale given for how the expert arrived at his opinion about a very specific alternative design standard based on this information or anything else. The discussion of how the roof of the accident vehicle collapsed, *id.* at 6-7, is no more helpful. Whether the roof should have been stronger was at issue, not the details of how it deformed during the accident.

simply mean . . . any theory that a medical expert is willing to espouse"). The cases in which experts have been allowed to testify based primarily on experience have involved the kind of direct factual observations for which this approach is appropriate. *See, e.g., Thomas v. Newton International Enterprises,* 42 F.3d 1266 (9th Cir. 1994) (reversing trial court's exclusion of testimony from experienced longshore worker regarding what is usually done to prevent falls down open hatches); *United States v. Locascio,* 6 F.3d 924 (2d Cir. 1993), *cert. denied,* 114 S.Ct. 1646 (1994) (testimony about typical structure of crime families).

B. Requiring an Explanation of Reasoning and Methodology Is Particularly Important for a Field Like Engineering.

When, as in this case, the practicability and feasibility of a design standard are at issue, the need for reasoned analysis and testing is particularly great. Many of the factors that must be considered in comparing designs are "product- and manufacturer-specific, and most cannot be determined reliably without testing." *Cummins v. Lyle Industries,* 93 F.3d 362, 369 (7th Cir. 1996). *See also Deimer v. Cincinnati Sub-Zero Products, Inc.,* 58 F.3d 341, 344 (7th Cir. 1995) (affirming exclusion of engineering testimony where the expert "did not conduct any studies or analysis to substantiate his opinion"); *Peitzmeier v. Hennessy Industries, Inc.,* 97 F.3d 293, 297 (8th Cir. 1996) (affirming exclusion where an expert had "shown no factual basis to support an opinion that his design changes are feasible or that they would not hinder the efficacy of [the tire-changing machine]").

Indeed, the expert whose testimony is at issue in this case made repeated reference to his use of general engineering concepts, Petitioners' Petition at 4, and he acknowledged the complexity of the design process and the importance of testing. *Id.* at 5. Yet the Appellate Court held that his testimony should be admitted precisely be-

cause he provided no reasoned explanation of how he had used the engineering concepts he cited, and had done none of the testing he conceded was vital. Again, if allowed to stand, this blatantly illogical ruling will undo *Daubert* not only for engineering testimony, but for expert testimony from a wide variety of fields.

C. Engineering Standards Are Based on Careful Testing and Considered Review of Data, Not on a Single Engineer's Experience and Training.

The Plaintiff's claim in this case boils down to the proposition that the roof of the car in which he was riding should have been stronger, and that the standard governing its design should have been different, but his expert had no reasoned explanation for this opinion, which was little more than a speculative hunch. Engineering, however, involves much more than a vague application of experience and training.

The engineering process begins with the formulation of a problem. Ideas and concepts are then developed, and they are tested through the use of models and analysis. Finally, a design and its function are described in a proposal or report. George C. Beakley & Ernest G. Chilton, DESIGN: SERVING THE NEEDS OF MAN 194 (1974).

The development of standards requires particular thoroughness and care. According to the ASTM, one of the foremost private standard setting bodies in the United States,

> technically competent standards result when a full consensus of all concerned parties is achieved and rigorous due process procedures are followed. This philosophy and standards development system ensure technically competent standards having the highest credibility when critically examined and used as the basis for commercial, legal, or regulatory actions.

Foreword to ANNUAL BOOK OF ASTM STANDARDS, Vol. 00.01 at iv (1992).

The Plaintiff's expert testimony in this case clearly does not reflect this kind of careful testing and considered review of data, and the expert's invocation of his experience and training do not heal its basic deficiencies. As either scientific or technical knowledge it unequivocally fails the *Daubert* test. The District Court should not have ruled this testimony admissible, and the Tenth Circuit should have reversed its ruling.

III. THE ISSUES IN THIS CASE ARE IMPORTANT.

As noted several times, this case is about far more than one automobile accident and one expert witness. *Daubert* has greatly improved the way in which federal courts resolve disputes about expert testimony from many fields,[6] and in many kinds of cases,[7] which is why *amici* are so concerned about the Tenth Circuit's ruling. The "experience and training" test threatens this post-*Daubert* progress. Because some district courts have already followed it, *see Liriano v. Hobart Corp.*, 1996 WL 304337, at *4-5 (S.D.N.Y. July 23, 1996); *Waitek v. Dalkon Shield Claimants Trust*, 934 F.Supp. 1068, 1087 n.10 (N.D.

---

[6] Several commentators have remarked on the improvement wrought by *Daubert*. *See, e.g.*, Arvin Maskin, *The Impact of* Daubert *on the Admissibility of Scientific Evidence: The Supreme Court Catches Up With a Decade of Jurisprudence*, 15 Cardozo L. Rev. 1929, 1932 (1994) (*Daubert* is "the beginning of an ongoing process in the development of practical approaches to maintaining the integrity of the fact-finding process."); Marc S. Klein, *The Revolution in Practice and Procedure:* "Daubert *Hearings*", 1 Shepard's Expert & Sci. Evidence Q. 655, 656 (1994) (judicial gatekeeping "will *revolutionize* practice and procedure in this field" (emphasis in original)); Bert Black, Francisco J. Ayala & Carol Saffran-Brinks, *Science and the Law in the Wake of* Daubert: *A New Search for Scientific Knowledge*, 72 Tex. L. Rev. 715, 802 (1994) (expressing hope that *Daubert* will bring law and science into closer accord).

[7] A WestLaw database containing all cases that have cited *Daubert* already includes almost 800 cases. The kinds of cases in which *Daubert* has been cited range from tax fraud to murder, and from condemnation to patent law. It's precedential reach goes far beyond toxic torts and product liability cases.

Iowa 1996), prompt review by this Court is extremely important.

CONCLUSION

For the foregoing reasons, *amici* urge this Court to review the Tenth Circuit's ruling in this case, to make clear the applicability of *Daubert* to fields like engineering and to all other expert testimony, and to reject the "experience and training" test for determining the admissibility of expert testimony.

Respectfully submitted,

Of Counsel:

DAVID F. ZOLL
DONALD D. EVANS
CHEMICAL MANUFACTURERS ASSOCIATION
1300 Wilson Boulevard
Arlington, Virginia 22209
(703) 741-5000

ROBIN S. CONRAD
NATIONAL CHAMBER LITIGATION CENTER, INC.
1615 H Street, N.W.
Washington, D.C. 20062
(202) 463-5337

November 22, 1996

BERT BLACK *
DANIEL R. CHEMERS
WEINBERG & GREEN LLC
100 South Charles Street
Baltimore, Maryland 21201
(410) 332-8600

CLIFTON T. HUTCHINSON
HUGHES & LUCE, L.L.P.
1717 Main Street
Suite 2800
Dallas, Texas 75201
(214) 939-5500

Counsel for Amici Curiae

* Counsel of Record